



State of California • State and Consumer Services Agency • Gray Davis, Governor

## DEPARTMENT OF GENERAL SERVICES

Executive Office • 1325 J Street, Suite 1910 • Sacramento, California 95814-2928

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April 21, 2000

Mr. Bion M. Gregory  
Legislative Counsel  
State Capitol, Room 3021, B-30  
Sacramento, CA 95814

Dear Mr. Gregory:

Attached is the Annual Report on State Telecommunications as required by Government Code Section 15277.

If you have any questions or require additional information, please contact Gary Grootveld, Chief, Office of Public Safety Radio Services, at (916) 657-9381.

Sincerely,

CLIFF ALLENBY, Interim Director  
Department of General Services

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Attachment

cc: See attached distribution list  
Gary Grootveld, Chief, Office of Public Safety Radio Services, Department of General Services

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Michael J. Gotch, Legislative Secretary  
Office of the Governor  
State Capitol, First Floor, E-15  
Sacramento, CA 95814  
(1 copy)

Office of Legislative Counsel  
Attention: Indexing Division  
925 L Street, Suite 1150, B-30  
Sacramento, CA 95814  
(1 copy)

Happy Chastain, Deputy Secretary-Legislation  
State and Consumer Services Agency  
915 Capitol Mall, Room 200, C-14  
Sacramento, CA 95814  
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Cal Smith, Program Budget Manager  
Department of Finance  
915 L Street, A-15  
Sacramento, CA 95814  
(1 copy)

Originating Office

Fred Klass, Program Budget Manager  
Department of Finance  
915 L Street, A-15  
Sacramento, CA 95814  
(1 copy)

Karen L. Neuwald, Assistant Director-Legislation  
Department of General Services  
1325 J Street, Suite 1910, C-1  
Sacramento, CA 95814  
(1 copy)

**LEGISLATURE--REVISED 12/20/99**

Cec Wallin, Budget and Planning Officer  
Office of Fiscal Services  
1325 J Street, Suite 1600, C-18  
Sacramento, CA 95814  
(1 copy)

This report is prepared in response to Government Code Section 15277 which requires the Department of General Services (DGS), Telecommunications Division (TD), to submit an annual report to the Legislature describing "...actions taken by the department to plan and advocate the most advantageous use of telecommunications technology in state government operations and efforts to reduce costs."

The TD administers telecommunications systems services including planning, acquisition, installation, maintenance, and related activities to support state government and various other agencies throughout California. "Telecommunications" as used in this report refers to the transmission of information by electronic means including telephone, data, radio, microwave, lightwave, video, and facsimile. The TD was created in 1947 by the California State Communications Act, and its authority is conferred by Government Code Sections 14931 through 14931.1 and 15250 through 15279. Additionally, Government Code Section 53100 et seq., the Warren 9-1-1 Emergency Assistance Act, confers authority to the TD for administering California's Emergency Telephone Number (9-1-1) Program.

The TD's established mission is to ensure that quality telecommunications services and commodities are provided to all state agencies in the most cost-effective, efficient, and timely manner possible. This includes maximizing the use of state resources and consolidation and joint use of telecommunications systems and services where operationally, technically, and economically feasible.

### ***PUBLIC-SAFETY RADIO INTEGRATED SYSTEM MANAGEMENT***

The Public-Safety Radio Integrated Systems Management (PRISM) program will initiate a shared public safety radio system to be implemented over a 15-year period. This will significantly enhance the efficiency of state, local, and federal agencies' operations by allowing them to communicate between groups when responding to emergency situations such as those brought about by natural disasters, i.e., earthquakes, floods, or forest fires.

California's public safety agencies provide law enforcement, fire protection, emergency response, transportation management, flood control, detention, rehabilitation, and other public services to nearly 36 million residents and over 44 million visitors each year. These agencies operate and maintain largely independent radio systems to accomplish their missions. In today's telecommunications environment, lack of interoperability, channel congestion, aging equipment, and limited functionality are crippling these public safety

systems. In addition, recent changes in technology and federal rules and regulations regarding radio services and spectrum availability are seriously impacting radio systems the state utilizes in its daily operations.

In March, 1996, the Director of the DGS formally established the Public Safety Radio Strategic Planning Committee. This Committee was instructed to work with the TD's Office of Public Safety Radio Services in developing a strategic plan which would address these critical issues as well as enhance the public safety community's ability to successfully carry out its mission. Along with the TD's Office of Public Safety Radio Services, the Committee is comprised of representatives from each of California's ten major public safety agencies:

- Department of Transportation
- Department of Fish and Game
- Department of Corrections
- Department of Forestry and Fire Protection
- Department of Parks and Recreation
- Department of the Youth Authority
- Department of Justice
- Department of Water Resources
- California Highway Patrol
- Governor's Office of Emergency Services

This Committee prepared and released *Partnering for the Future: A Strategic Plan for California's Public Safety Radio Communications* in January, 1997. This strategic plan describes the need to improve public safety radio systems, provides an overview of various alternatives for the future, and outlines a process to implement the plan over the next 15 years.

In April, 1999, the Committee released *Partnering for the Future, Cost Benefit Analysis for California's Public Safety Radio Communications Project* (CBA). This CBA reviews the alternatives available to the state for improved radio communications and interoperability, reviews the costs associated with each alternative, and selects a shared hybrid system utilizing UHF and VHF spectrum and trunking technology to meet the state's needs.

The Committee is working on four tactical actions with which to implement the direction outlined in the strategic plan:

1. The Spectrum Acquisition Subcommittee is developing a plan to demonstrate to the Federal Communications Commission (FCC) that the State of California has a compelling need for additional frequencies in order to take advantage of new technologies and serve the needs of the public.
2. The Communications Subcommittee is exploring the development of partnerships with other public safety agencies at the local and federal levels to provide the highest level of interoperability possible in order to maximize spectrum efficiency.
3. The Communications Subcommittee also continues to provide stakeholders and government control agencies updates and justifications to support the overall plan.
4. The Pilot Project Subcommittee was established to determine if a pilot project concept should be utilized in order to validate the assumptions and recommendations of the strategic plan. The Subcommittee determined that the Sacramento region of California provides an excellent location to perform a pilot project, and the Steering Committee approved pursuing this as a pilot area. The TD is pursuing fiscal resources for the design and engineering work necessary to validate the plan assumptions and to take the next step in the pilot process.

The strategic direction set forth by this Committee establishes a model for partnership in public safety communications that not only will satisfy today's unmet requirements, but also will prepare California to respond to increasing service demands in the future. The strategic plan ultimately will provide a means to successfully carry all state public safety agencies well into the 21st Century.

In addition, California is closely following issues pending before the FCC which would provide radio spectrum relief in the 746 MHz to 806 MHz frequency range for public safety radio services. The release of this new spectrum is a key element in the overall plan to implement a statewide, interoperable radio system to meet the needs of state agencies over the next 15 years as well as to provide a platform for interoperability with local and federal public safety agencies.

The Governor's 2000-2001 Budget includes \$1.8 million for the first year of a two-year, \$3.4 million effort to engineer and design the PRISM public safety radio system as a precursor to a potential \$90 million, three-year pilot project in the six-county Sacramento area. If the pilot is successful, a multibillion-dollar project to construct a statewide, integrated system facilitating interagency communications would follow.

### **PUBLIC SAFETY MICROWAVE NETWORK CONVERSION**

California's Public Safety Microwave Network (PSMN) is one of the largest public safety microwave networks in the world. The system covers more than 6,000 path miles, contains over 300 sites, and encompasses ten primary routes. It is available to all public safety agencies throughout the state including law enforcement, fire, special emergency, highway maintenance, forestry and conservation, and public services agencies.

In order to provide enhanced capabilities to user agencies, the DGS embarked on an analog-to-digital upgrade for this system. Work on this project began in fiscal year 1993-94, and initial time estimates projected completion in fiscal year 2003-04. A report to the Legislature, delivered on November 29, 1995, provided an overview of the conversion plan along with a program schedule and cost analysis. That report, subsequently approved by the Legislature, stated the conversion was progressing on schedule and within budget.

To accomplish the microwave system conversion, a number of alternative technologies were considered, including satellite communications systems, utilization of Synchronous Optical Network (SONET) technologies, and exclusive use of commercially leased lines. A study of each of these alternatives confirmed that converting the PSMN from analog to digital technology more efficiently fulfills the requirements of user agencies and more readily accommodates potential mandates regarding the efficient use of radio spectrum.

The total cost of this program was originally estimated at \$90 million. The cost allocation methodology initially developed and implemented by the DGS continues to be the preferred approach, and it is anticipated that project costs will remain within the original estimate. In line with the time frame developed in fiscal year 1994-95, this program continues on schedule with completion expected to occur during fiscal year 2003-04.

In February, 2000, the TD submitted a status report to the Legislature summarizing the efforts expended and progress made on the PSMN project. The DGS is confident that this analog-to-digital upgrade will provide its customers with the wide-area digital network services they require in today's telecommunications environment as well as in the foreseeable future.

### **CALIFORNIA INTEGRATED INFORMATION NETWORK (CIIN)**

In December, 1996, the Department of Information Technology issued a report entitled *California Integrated Information Network (CIIN)*, which updated California's strategic telecommunications direction. This strategy was based on the state divesting itself of telecommunications equipment and moving toward vendor-owned and vendor-provided telecommunications services. As a result, in October, 1997, a Solicitation for Conceptual Proposal was issued to procure services and divest the state of telecommunications equipment assets. On December 4, 1998, a contract was signed with Pacific Bell and MCI WorldCom for these services. Under the new agreement, the state administers the CIIN suite of contracts while Pacific Bell and MCI WorldCom operate and maintain the system and equipment.

During the conversion to the new network services, the state experienced severe outages with frame relay services. Because of the magnitude and impact to major data center customers, alternative backup services were obtained for critical circuits and sites. Concurrent with this action, the development of design architecture for both an interim and final replacement frame relay network was initiated. Moreover, the CIIN contract includes provisions for an annual review to evaluate contract components, performance, and service levels. The first annual review is scheduled to commence in March, 2000. The review will address frame relay service level agreements specifically, as well as other contractual requirements.

Notwithstanding the service problems encountered with the frame relay network, the CIIN contract incorporates the state's past environment of independent, heterogeneous, state-owned, telecommunications networks with an integrated, flexible, and efficient statewide multifunction service. This service relies to the greatest extent feasible on a Pacific Bell/MCI WorldCom-owned/operated

infrastructure and the competitive acquisition of management, operations, and service delivery.

### **INTERNET STATE TELEPHONE DIRECTORY**

The Governor's Office for Innovation in California, in conjunction with the Department of Information Technology and various other state departments, is developing an E-Government Blueprint for California. According to the Governor's Office, this Blueprint is to "...feature recent exemplary technology projects that resulted in better, more effective service to Californians."

The TD is submitting for inclusion in this program its Online State Phone Directory project which is being developed to provide Internet access to State Telephone Directory information via an off-the-shelf application solution. This access will be available to all government agencies and the general public.

Using the concept of an "enterprise" telephone directory, the scope of the project will examine basic telephone directory applications, interface e-mail systems, automatically generated individual and organizational listings, and consolidated functional extensions such as human resources, facilities, equipment, and skill identification. A Request For Information (RFI) has been issued to explore this project.

### **PAYPHONE MASTER CONTRACT**

In 1986-87, the state accounted for approximately 3,000 payphones located in state facilities such as correctional institutions and hospitals. During that fiscal year, approximately \$900,000 from payphone commissions were directed to the state's General Fund. However, semipublic payphones were costing the state approximately \$400,000. Semipublic payphones were phones that were nonprofitable for the payphone owner but required at these facilities for safety purposes and were paid for by the agency requiring the phone.

After a study of this process, the TD developed a Request For Proposal (RFP) for a Master Contract for Payphone Concession Services. This RFP was awarded to GTE and covered the GTE Local Exchange Area in California. By August, 1992, a second RFP was developed and awarded to MCI covering the remainder of the



state: The Pacific Bell and Contel Local Exchange areas. By June, 1993, there were 6,000 payphones under the State Master Contract and 35 agencies, three of which were local government entities. At this time, approximately \$7.9 million dollars in payphone commissions were going to the state's General Fund and all semipublic payphones were replaced by public payphones that presented no cost to the agency.

The TD's Payphone Program was authorized to oversee the Master Payphone Concession Contract during fiscal year 1994-95. At that time, the industry received permission from the FCC to raise the inmate operator-assisted collect call surcharge rate from \$1.05 to \$3.00 to compensate carriers for the requirement of call monitoring and recording equipment within the prisons.

By 1996-97, payphones under the Master Contract had grown to 8,000 with over 100 participating agencies. These agencies included state universities and colleges, cities, counties, schools, and special school districts. The Payphone Program expanded its staffing which allowed external contracting for market and regulatory analysis as well as marketing of the program. At this time, payphone commissions to the state's General Fund were approximately \$16 million. Additionally, negotiations were underway to extend the Master Contract an additional two years in order to assess the impact of the Telecommunications Act of 1996.

Payphones under the Master Contract ballooned to over 10,000 with over 136 agencies participating during fiscal year 1997-98. Overall program commission revenue exceeded \$26 million, of which \$22 million was directed to the state's General Fund and the difference to nonstate tax supported agencies. Program revenue for fiscal year 1998-99 exceeded \$29 million. Of this amount, \$25 million went to the state General Fund.

Currently, a new RFP is being initiated for this program. This contract will include equipment installation in 33 institutions and 38 correctional camps and will take approximately 18 to 24 months to implement.

## **9-1-1 PROGRAM**

The TD, in concert with all public safety agencies in the state, is dedicated to providing its citizens with the best emergency services possible. With a population approaching 36 million, the universality of 9-1-1 in this state is imperative. The 9-1-1 Program goal is to enable Public Safety Answering Points (PSAPs) to provide the fastest, most reliable, cost-effective telephone access to emergency service for all 9-1-1 callers in California.

Nine-One-One is the emergency number adopted in 1968 by the telephone industry nationwide. It was developed as a simple means to provide an easy-to-remember, universal number for the public to use when requesting emergency services. In 1972, the Warren 9-1-1 Emergency Assistance Act mandated implementation of a statewide 9-1-1 program.

In December, 1985, after a large scale and highly focused effort by every telephone company, all emergency response agencies in the state, and the 9-1-1 Program, universal 9-1-1 service in California was established. With this "basic" program, emergency services could be accessed statewide from every telephone by dialing 9-1-1. Then, in January, 1993, California achieved another milestone by completing the implementation of statewide "enhanced" (E9-1-1) service. This was a significant upgrade to 9-1-1. For example, when an E9-1-1 call is received, it provides telephone number and address identification along with proper call routing.

The 9-1-1 Program Office administers California's statewide 9-1-1 Program pursuant to Government Code Sections 53100 et seq. This includes system compliance evaluation, in addition to reviewing, approving, and reimbursing PSAPs for necessary and reasonable costs associated with the planning, implementation, and maintenance of a state approved 9-1-1 system. In accordance with law, the 9-1-1 Program Office monitors all emergency telephone systems to ensure compliance with operational and technical standards as established by California. Foreign language translation services also are furnished through a state-provided service contract. These calls are accessed via a conference call on toll-free "800" telephone numbers.

Currently, there are approximately 500 PSAPs established statewide. While administering a budget in excess of \$90 million, the 9-1-1 Program continues to work toward expanding California's 9-1-1 systems to include rapidly developing,

innovative telecommunications technologies such as wireless E9-1-1 calling for cellular systems.

### **9-1-1 WIRELESS ENHANCEMENT**

Recent changes in FCC Order 94-102 will allow the 9-1-1 Program Office, through its 9-1-1 strategic planning process, to make significant improvements in wireless 9-1-1 call handling. FCC 94-102 now requires wireless carriers to provide the telephone number and precise location for subscribers who dial 9-1-1 (also known as "Wireless E9-1-1") as soon as October, 2001. A very recent change in this order shifted the primary funding obligation from the PSAPs to the wireless carriers. However, the order applies to wireless carriers only if PSAPs request the service and possess the telephone equipment needed to make use of the information to be provided. The preparation of the 9-1-1 network infrastructure to accept wireless E9-1-1 is the responsibility of the 9-1-1 Program Office working in close cooperation with public safety agencies, wireline, and wireless carriers.

Unlike calls made from residential and commercial wired phones, wireless phones do not currently provide the telephone number or location of the caller. Additionally, significant problems result from call spikes that occur whenever there are incidents on major thoroughfares. These incidents, which could be as minor as a stalled vehicle, occur every day on California roadways and result in 9-1-1 calls getting delayed for up to several minutes before being answered.

Identifying the precise location of wireless 9-1-1 callers will help solve some of California's most pressing 9-1-1 problems. Once a wireless caller's location is pinpointed, 9-1-1 calls can be routed through the 9-1-1 network in a way that minimizes wait times for callers who are most at risk. For example, calls originating from freeways would continue to be routed to the California Highway Patrol call centers, whereas other calls could be routed to local PSAPs that are less likely to be affected by sudden, heavy call volumes.

In addition to upgrades required by FCC 94-102, the 9-1-1 Program Office will be evaluating the feasibility of implementing new technologies and 9-1-1 system designs to facilitate load sharing for wireless and wireline 9-1-1 calls. Efficient load sharing will result in calls being off-loaded from overloaded PSAPs during peak periods to other less busy PSAPs. If designed correctly, load sharing in

conjunction with the precise location information required by FCC 94-102 should effectively solve the major wireless 9-1-1 problems that exist in California today.

### **YEAR 2000 (Y2K) ACTIVITIES**

Early in 1999, aggressive plans were put into motion by the TD to ensure a smooth and successful Y2K transition. The TD effectively employed various activities to assist agencies (cities, counties, and state entities) on a statewide basis, in achieving Y2K telecommunications systems and equipment readiness. As a result of this effort, by November, 1999:

All “mission critical” systems were determined Y2K ready. These systems are comprised of:

- Public Safety Radio Services Systems:
  - Microwave Relay System
  - Radio Maintenance
  - Microwave Relay System Facilities
  - California Multi-Agency Radio System (CMARS)
- Network Services Systems:
  - Emergency 9-1-1
  - CALNET
  - Payphones

Also determined Y2K ready were the following “departmental critical” and “noncritical” systems:

- Embedded systems, including building access and security systems, in the TD facilities
- Computerized information systems used internally by the TD
- Desktop computers, services, and communications equipment
- Embedded chips in telephones, fax machines, and other equipment

In addition to remediating its systems, the TD conducted outreach efforts to raise awareness of Y2K issues and provide guidance to its customers. In this regard, the TD developed and distributed a "Year 2000 Guide For Telecommunications" which included sample lists of customer premise equipment that should be included in their Y2K readiness efforts. The guide also included methodologies for telecommunications risk analysis, vendor management and testing, a quick reference resource list, and a glossary of commonly employed telecommunications terms and abbreviations. These outreach efforts also included contacting and assisting:

- State and local agencies that depend on Public Safety Radio Services and Network Services systems
- Approximately 500 PSAPs – operated by local government agencies – that respond to 9-1-1 calls

Additionally, the TD reviewed the Y2K readiness of telecommunications carriers operating in California and worked closely with Pacific Bell and GTE, the carriers that provide the majority of the state's local telephone services. A Division Operations Center was staffed and maintained during the Y2K rollover period to monitor mission critical systems and serve as an information clearinghouse for telecommunications issues in general. In addition, Business Continuity Plans were put in place for every TD operational unit in the event of unforeseen interruptions to any TD system on or after January 1, 2000.

Through these efforts, the transition to the new millennium progressed smoothly with no significant problems as a result of Y2K.

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